Message

From: Sivertsen, Scott [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=56A8B664924A40E18766F1C843EEC111-SIVERTSEN, SCOTT]
Sent: 12/12/2018 3:43:15 PM
To: Strynar, Mark [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=5a9910d5b38e471497bd875fd329a20a-Strynar, Mark]
CC: McCord, James [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=McCord, James]; Lindstrom, Andrew [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=04bf7cf26aa44ce29763fbc1c1b2338e-Lindstrom, Andrew]
Subject: RE: Ion Enhancement - PFESA BP 4

Hi Mark,

You're correct about the absence of an ISTD. Because it seemed the direction the Agency was headed for an SW-846 method, we standardized on ASTM D7979 for the legacy PFAS (and GenX) analysis. That method was also used for the "byproduct" analysis to maintain consistency. So it's an external standard, amount/area comparison. I've got half a dozen samples that will allow dilutions, with the plan to run those diluted and see if there is a linear response reduction (or not) in the samples. Based on those results, it should provide some insight into how the data needs to be qualified.

Interesting about the HFPO-DA absence at higher resolution. I've heard just a tiny bit about this.

Thanks for the feedback,

Scott

From: Strynar, Mark
Sent: Wednesday, December 12, 2018 8:11 AM
To: Sivertsen, Scott <Sivertsen.Scott@epa.gov>
Cc: McCord, James <mccord.james@epa.gov>; Lindstrom, Andrew <Lindstrom.Andrew@epa.gov>
Subject: RE: Ion Enhancement - PFESA BP 4

Scott,

Sorry for slow response. Travel and rare NC snow storm got in the way.

I have not seen this, however I have very little experience with Nafion BP4 thus far. All of our experience is on our TOFMS or Orbitrap. I have no MS/MS experience at all on this chemical. Sorry I can't even speculate on a cure. Is there an unmatched IS being used at all in this case or is thus just area counts for each MRM?

We need to get to the bottom of the HFPO-DA in rainfall. In particular rainfall through a canopy. We did a handful of samples on our MS/MS, TOFMS and Orbitrap. We only saw HFPO-DA in the triple quad work. The ion ratios were consistent with standards and the RT was correct. ON the TOFMS and Orbitrap no integrated peak at all. I am at a loss.

Mark

From: Sivertsen, Scott
Sent: Thursday, December 06, 2018 3:04 PM
To: Strynar, Mark <strynar.mark@epa.gov>
Subject: Ion Enhancement - PFESA BP 4

Hi Mark.

We have a sample that required dilution of PFESA BP 4 because it was above our calibration curve. In the below table, Initial Concentration = on-column concentrations (ng/L), Final Concentration = dilution factor accounted for. Diluted concentrations are not linear for that compound, but are for others, so I know my dilutions are correct. All samples are aliquoted/diluted on the day of analysis.

Results are reproducible, with the exception of the 27-Nov analysis which was the original semi-quant screening run. I can't explain or reproduce that value. It looks like something which enhances the concentration is being diluted out of the sample. Transitions are *m/z* 441 > 197 and 241. Ion ratios (~1.3) are consistent between undiluted and diluted samples.

So, my question is: have you seen this behavior in your samples? [This is a rainfall sample, which surprised everyone with its high level of HFPO-DA, confirmed by re-prep and analysis.]

Analysis Date	Initial Concentration	Final Concentration	Dilution
27-Nov	536	536	N/A
30-Nov	1201	1201	N/A
3-Dec	1250	1250	N/A
	69.8	349	5
4-Dec	1250	1250	N/A
	290	580	2
	60.5	303	5

Thanks,

Scott

****

Scott Sivertsen
Chemist, Region 4 US EPA
980 College Station Road
Athens, GA 30605

706/355-8869 (office)
706/355-8857 (FAX)
****